AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for estimating a transmission channel in a digital communications system which operates in accordance with GSM specifications, said communications system including a receiver which receives a signal transmitted over the transmission channel, said receiver including a channel estimation-based equalizer, said equalizer having a window size adapted to the actual delay spread of the transmission channel, and said equalizer using an estimate of the transmission channel for synchronizing and correcting said received signal, said received signal including a 26-symbol training sequence, said method comprising:

using any consecutive m+15 symbols ~~16-symbol segment~~ of said 26-symbol training sequence to estimate~~, without matrix operation,~~ the transmission channel for different ~~equalizer window sizes at different synchronization points~~ channel spans m.

2. (Currently Amended) The method according to Claim 16 ~~1~~, where tap values for different synchronization points and tap positions are obtained in a two-dimensional recursive computation step for joint optimization of synchronization and window sizing of the said equalizer using Least Square Error (LSE) criterion.

3. (Original) The method according to Claims 1 or 2, wherein said digital communications system operates in accordance with GSM/EDGE specifications.

4. (Currently Amended) The method according to Claims 1 or 2, wherein said different channel spans ~~equalizer window sizes~~ comprises ~~equalizer window~~ spans of from 1-8 taps.

5. (Original) The method according to Claims 1 or 2, wherein said using step comprises using delayed (shifted) segments in the training sequence for said estimation.

6. (Original) The method according to Claim 2, wherein said tap values for different synch points are calculated in the 2-dimensional "north-west" direction.

7. (Original) The method according to Claims 1 or 2, wherein the consecutive 16-symbol segment used is close to the end of the 26-symbol training sequence.

8. (Original) The method according to Claim 5, wherein the consecutive 16-symbol segment used is the last but one $m + 15$ symbols, where m is the equalizer window size.

9. (Original) The method according to Claim 1, wherein said using step comprises using an Least Square Error (LSE) approach for said estimation.

10. (Original) The method according to Claim 2, wherein said using step comprises using an LSE approach for joint synchronization and equalizer window sizing.

11. (Currently Amended) A method for estimating a transmission channel in a digital communications system which operates in accordance with GSM/EDGE specifications, said communications system including a receiver which receives a signal transmitted over the transmission channel, said receiver including a channel estimation-based equalizer which uses an estimate of the transmission channel for correcting said received signal, said signal including a 26-symbol training sequence, said method comprising:

using any consecutive m+15 symbols ~~16-symbol segment~~ of said 26-symbol training sequence to estimate~~, without matrix operation,~~ the transmission channel for different ~~equalizer window sizes of from 1 to 8 symbols long~~ channel spans m.

12. (Original) The method according to Claim 11, wherein said using step comprises using delayed (shifted) segments of the training sequence for said estimation.

13. (Original) The method according to Claim 12, wherein said using step comprises using a Least Square Error (LSE) approach for channel estimation.

14. (Currently Amended) An apparatus for estimating a transmission channel in a digital communications system which operates in accordance with GSM/EDGE specifications, said system including a receiver which receives a signal transmitted over the transmission channel, said receiver including a channel estimation-based equalizer which uses an estimate of the transmission channel for correcting said received signal, said received signal including a 26-symbol training sequence, said equalizer using any consecutive m+15 symbols ~~16-symbol segment~~ of said 26-symbol training sequence for estimating~~, without matrix operation,~~ the transmission channel for different ~~equalizer window sizes of from 1 to 8 symbols long~~ channel spans m.

15. Canceled.

16. (New) The method of claim 1, wherein the step of estimating the transmission channel is performed at different synchronization points.

17. (New) The method of claim 1, wherein the step of estimating the transmission channel is performed without matrix operation.

18. (New) The method of claim 11, wherein the step of estimating the transmission channel is performed at different synchronization points.

19. (New) The method of claim 11, wherein said different channel spans comprise spans of from 1-8 symbols long.

20. (New) The method of claim 11, wherein the step of estimating the transmission channel is performed without matrix operation.

21. (New) The apparatus of claim 14, wherein said estimating by said receiver is performed at different synchronization points.

22. (New) The apparatus of claim 14, wherein said different channel spans comprise spans of from 1-8 symbols long.

23. (New) The apparatus of claim 14, wherein said estimating by said receiver is performed without matrix operation.